MIOSHA Ne

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Director's Corner

Bart Pickelman, CIH, Director



MIOSHA was pleased to host the 2021 Fall Occupational Safety and Health State Plan Association (OSHSPA) Meeting in Traverse City, MI this September. OSHSPA is an organization of states and territories that have OSHAapproved state plans, serving as the link between state plans, federal OSHA and Congress.

Currently, there are 28 states and territories with state-operated programs for worker safety and health.

This special meeting rotates among each of the state plans, enabling OSHSPA representatives to meet three times a year to exchange information and address shared concerns. As a result, each state plan is afforded the opportunity to host a meeting roughly every nine years.

This fall, it was Michigan's turn to organize the event. The convention included a welcome and opening presentation by MIOSHA, thoughtprovoking discussions among all state plan programs, and presentations by federal OSHA representatives.

State plan programs have historically led efforts to develop multifaceted approaches for occupational safety and health. Along with activities that focus on compliance, most states, like Michigan, devote significant resources toward free outreach services, including consultations and training resources to employers and workers.

Each state plan program uniquely contributes to the administration of workplace safety and health programs in the U.S., and because they are locally based, its often easier to develop and implement innovative programs and pilot new methods that ensure the highest level of workplace safety and health.

As "laboratories of innovation," these state plan programs benefit from meeting multiple times a year to share best practices and address shared issues. And this fall was no different.

We look forward to continuing to meet and collaborate with fellow state plan programs to help elevate the health and safety of workplaces not just in Michigan, but across the nation.

Let's Keep the Momentum Going!

Nella Davis-Ray, Director, Consultation Education and **Training (CET) Division**

MIOSHA and federal OSHA recently wrapped up their annual campaigns to help workplaces build successful safety and health programs.

For the 17th year, MIOSHA invited employers to "Take a Stand" for workplace safety and health, dedicating staff to visit Michigan's high-hazard industries and help employers proactively identify and manage workplace hazards before they cause injury or illness.

Also in August, OSHA's nationwide Safe + Sound Week recognized the successes of workplace health and safety programs and offered information and ideas on how to keep America's workers safe.

Congratulations to the 134 Michigan companies that were recognized by MIOSHA and OSHA for their participation in these campaigns this year!

While we applaud these efforts, we also encourage these companies not to limit worker safety to once-a-year campaigns.

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Let's Keep the Momentum Going! (continued)

Nella Davis-Ray, Director, CET Division

A successful safety and health program is a proactive way to manage hazards in the workplace to prevent injuries and illnesses, and actively managing safety in the workplace is a year-round commitment. New employees, new hazards, and new challenges arise around the clock and calendar year. Don't stop or wait to start on focusing on worker safety.

MIOSHA is here to help you keep the momentum going. Our consultants are always available to work with employers to identify workplace hazards, provide advice for compliance with MIOSHA standards, and assist in improving safety and health programs.

Didn't participate this year? Don't have a clue how to start your program? No matter where your business is on safety and health, MIOSHA can help you take a step in the right direction. Give us a call today: 517-284-7725.

MIOSHA Training Institute (MTI) — In-person Courses are Back!

Tanya Baker, Communications Specialist, CET Division

Starting this October, we're pleased to announce that the MIOSHA Training Institute (MTI) will be returning to face-to-face classroom instruction at host sites.

Over the past year and a half, the COVID-19 pandemic has pushed all of us to be more flexible and inventive in how we connect with one another, and we want to thank our MTI students for their adaptability during this time.

While our virtual instructor-led trainings have been successful and will continue to be offered as an option going forward, we

know many of our MTI students benefit from in-person instruction and we're looking forward to seeing you beginning October 1!

As we return to the classroom, MIOSHA will continue to offer electronic course materials to ensure accessibility and convenience. Plus, we'll provide electronic surveys after you've completed your course to help us solicit your important feedback and continuously improve our MTI programs.

For your safety, MIOSHA is encouraging all MTI co-sponsors follow updated CDC guidelines, which recommend implementing face coverings for all employees and visitors. Ultimately, the host site will determine what safety measures to put in place during each in-person course to support the health and safety of all MTI students.

Under the MTI Co-sponsor List of Responsibilities, you can also expect the host site to provide refreshments for half -day classes and refreshments and lunch for full-day courses. You can <u>find more MTI FAQs on our website</u>.

MIOSHA Training Institute (MTI) (continued)

Tanya Baker, Communications Specialist, CET Division

Why Take Advantage of MTI Courses?

Employers that provide a proactive occupational safety and health education program for their employees have been shown to experience lower workers' compensation costs, increased employee productivity and less absenteeism and turnover, among other benefits.

When employers take MTI courses, it offers them the opportunity to meet with consultants and compliance officers, and network with industry peers. And when you offer this training to your employees, you may qualify for a reduction on any penalties incurred during a MIOSHA inspection in acknowledgement of your proactive safety practices.

Our MTI calendar is chock-full of affordable, informative courses that can help you and your company achieve MIOSHA compliance, while improving and advancing occupational safety and health in the workplace. For a complete list of scheduled courses, check out the MTI calendar. Partial scholarships are available for many of the courses, with the exception of pilot courses and boot camps.

To learn more about the MTI and what it can do for you, please contact MIOSHA's Consultation Education and Training Division at 517-284-7720 or visit the website at www.michigan.gov/mti.

MVPP Best Practices: Verso Corporation Quinnesec Mill — Safety During Maintenance Outages

Sarah Blanzy, EHS Manager, Verso Corporation
Misty Nehring, Behavior Based Safety Leader, Verso Corporation
Doug Kimmel, MVPP Specialist, CET Division
Aaron Gundrum, Acting MVPP Specialist, CET Division

Verso Corporation is a leading American-owned and operated producer of graphic, specialty, packaging paper and market pulp. Established in 1985, the Quinnesec Mill was initially started to produce pulp and began making paper in 1990. The mill has the capacity to produce approximately 430,000 tons of graphic paper per year, used primarily in marketing applications, including magazines, catalogs and commercial printing. The mill also produces 240,000 tons of Northern Bleached Hardwood Kraft (NBHK) pulp used in printing, writing, specialty and packaging paper, facial and toilet tissue, and paper towels.

The site is approximately 34 years old with three main production buildings and additional buildings for the warehousing, maintenance, utilities, contractor and office support operations.

The mill has maintained MIOSHA's Michigan Voluntary Protection Program (MVPP) award since 2001. The MVPP Star is MIOSHA's highest recognition and is awarded to sites that have demonstrated excellence in the implementation of their health and safety management system.

Safety has always been an important value at the Quinnesec Mill. However, this focus is intensified during a maintenance outage. This is due to several factors, including time constraints (for the completion of the work); hours worked, such as overtime; use of contract workers; infrequently performed work operations; etc. Combined, these factors significantly elevate the potential for serious incidents.

To address the increase in hazard potential during an outage, significant effort is put into the pre-planning of these events. This was the case for their most recent outage, conducted in May 2021, which was the safest in the mill's history.

MVPP Best Practices: Verso Corporation Quinnesec Mill — Safety During Maintenance Outages (continued)

Sarah Blanzy, EHS Manager, Verso Corporation
Misty Nehring, Behavior Based Safety Leader, Verso Corporation
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The May 2021 outage lasted seven days with approximately 500 contract employees at the site, in addition to their own mill staff. Planning started several months in advance and included an outage core team that organized, implemented and communicated outage related activities.

As the safety focus can change from one outage to another, the mill's previous safety records were reviewed as part of the preparation for the outage. The review indicated a need for emphasis on chemical safety and personal protection equipment. Therefore, these topics were discussed in great detail during a pre-outage contractor



safety meeting. In addition, chemical safety was reviewed with the Mill Area Coordinators to ensure they knew their role in keeping contractors and mill employees safe from chemical exposures.

The expectation that safety always takes priority over the work schedule was reiterated during the pre-outage contractor safety meeting. It was important for the contract companies to understand that they were to inform their employees that working safely was not an option, but an expectation.

The safety "tools" that were already being used in the mill were also incorporated into the outage safety strategy. These included pre-task audits, formal safety observations and key safety procedure audits (KSPAs).

The emphasis on the use of these tools resulted in a 43% increase in pre-task audits, a 77.5% increase in formal safety observations, and a 54% increase in KSPAs compared with non-outage months.

During the outage, daily EHS meetings were held with an expectation that a representative from each contract company attend. Information on near misses, injuries and other issues was shared by each contractor. The point of sharing this information was so that the lessons learned from these events could be distributed to everyone involved in the outage.

The daily EHS meetings also provided an opportunity for the outage participants to ask questions, which helped ensure that issues were addressed before they became serious concerns. Overall, the meetings provided an opportunity for input and feedback from the mill safety group to the contractors and vice versa.

The COVID-19 pandemic was another safety aspect that had to be addressed in the planning for the outage. To reduce the potential of the introduction of the virus into the mill, temperature screening and mask requirements were implemented. Additional measures, including extra restrooms with sanitization stations, limited elevator capacities, contractor notification to the mill of any employees' COVID-19 related symptoms, etc. were also implemented. The expectation that these requirements be followed by mill members and contractors was set in the early planning stages for the outage. Anyone found not complying with the requirements were asked to leave the site. As a result of these efforts, there were no COVID-19 events during the outage.

The results of the outage demonstrate that through effective planning, setting of expectations and proper enforcement, safety for these types of projects can be managed successfully.

Significant Case Study — Employee Exposure to Welding Fumes in a Metal Fabrication Shop

Megan Brock, Health Supervisor, General Industry Safety and Health Division (GISHD)

In response to an employee complaint, a MIOSHA industrial hygienist (IH) investigated employee exposure to welding fumes in a metal fabrication shop. The IH determined that at least three employees performing MIG welding on aluminum parts, using aluminum-based welding wire, were exposed to welding fumes above the permissible exposure limit (PEL) of 5 mg/m3 as an 8-hour time weighted average (TWA), as specified in Part 301. Air Contaminants for General Industry.

While an exhaust fan in the area was available, it was not used due to inoperability of the louvres. Additionally, open overhead doors did not provide adequate ventilation to control fumes.

It was determined that employee exposures to welding fumes ranged from 0.86 to 18 mg/m3 as an 8-hour TWA. Variation in results were attributed to different types of pieces being welded in the shop and the number of pieces being welded throughout the employees' work shifts. Most employees in this department performed welding work continuously during their shifts. For some welders, exposure to aluminum fumes also showed concentrations just over the PEL. However, an overexposure to aluminum fumes could not be determined when the sampling and analytical error factor was taken into account.

Hexavalent Chromium (Chromium VI) was also assessed due to its inclusion in the welding wire used by the welders and the intermittent jobs which required employees to weld on stainless steel. An initial exposure assessment had not been conducted to determine compliance with Part 315. Chromium VI in General Industry. The

MIOSHA assessment did not show an overexposure to Chromium VI on the day the assessment was conducted.

As a result of these measurements, a citation was issued under <u>Part 529. Welding, Cutting and Brazing</u>, which requires local exhaust or general ventilation systems to be provided and arranged to keep the amount of toxic fumes, gases, or dusts below the permissible exposure limit specific in Part 301.

Other citations were related to:

- Not providing hazard communication training on welding fumes (<u>Part 529</u>. <u>Welding</u>, <u>Cutting and Brazing</u>) and Chromium VI (<u>Part 315</u>. <u>Chromium VI in General Industry</u>)
- Not implementing a respiratory protection program (<u>Part 451.</u> <u>Respiratory Protection</u>)
- Not doing initial monitoring for Chromium VI (<u>Part 315. Chromium VI in General Industry</u>)
- Insufficient detail on the MIOSHA 300 Injury and Illness logs (<u>Part 11. Recording and Reporting Occupational Injuries and Illnesses</u>)

To correct the violations, the employer began by implementing a respiratory protection program as an interim step while working on ventilation improvements. Employers implementing respiratory protection for welding operations must take the type of work into consideration when selecting a respirator, such as exposure to sparks and ability to fit under the welding helmet comfortably. Several companies make respirators specifically for welding that address these issues and it is important to select the best option for your employees to ensure their use. Loose fitting shrouds with built-in welding helmets are also available for employees that are unable to be fitted with a tight-fitting respirator.



Significant Case Study — Employee Exposure to Welding Fumes in a Metal Fabrication Shop (continued)

Megan Brock, Health Supervisor, GISHD

Since personal protective equipment is the last option to control hazards, the company also implemented welding fumes removal systems which were comprised of two continuous feed welding guns fitted with fume extractors and three adjustable 8" snorkel fume extractors. These removal systems reduced employee exposure to welding fumes to less than 2 mg/m3 as an 8-hour TWA on the day of the reassessment, ultimately correcting the violation. The company also implemented hazard communication training, which covered the hazards of welding fumes and Chromium VI, and installed curtains as requested. The remaining violations were also abated.

According to the <u>OSHA Fact Sheet on Controlling Hazardous Fume and Gases during Welding</u>, some of the factors that affect worker exposure to welding fumes include, but are not limited to:

- Type of welding process
- Base metal and filler metals used
- Welding rod composition
- Location (outside, enclosed space)
- Welder work practices
- Air movement
- Use of ventilation controls



The <u>fact sheet</u> also lists the health effects of breathing welding fumes, including but not limited to:

- Acute exposure to welding fumes and gases can result in eye, nose and throat irritation, dizziness, and nausea. Workers in the area who experience these symptoms should leave the area immediately, seek fresh air and obtain medical attention.
- Prolonged exposure to welding fumes may cause lung damage and various types of cancer, including lung, larynx, and urinary tract.
- Health effects from certain fumes may include metal fume fever, stomach ulcers, kidney damage and nervous system damage. Prolonged exposure to manganese fume can cause Parkinson's—like symptoms.
- Gases such as helium, argon and carbon dioxide displace oxygen in the air and can lead to suffocation, particularly when welding in confined or enclosed spaces. Carbon monoxide gas can form, posing a serious asphyxiation hazard.

Additional hazards associated with welding on stainless steel include the generation of Chromium VI. Chromium is a component in stainless steel, nonferrous alloys, chromate coatings and some welding consumables. Chromium is converted to its hexavalent state, Cr(VI), during the welding process. Cr(VI) fume is highly toxic and can damage the eyes, skin, nose, throat, and lungs and cause cancer. MIOSHA regulates worker exposure to Cr(VI) under its Part 315. Chromium VI in General Industry. MIOSHA's PEL for Cr(VI) is 5 µg/m3 as an 8-hour time-weighted average.

In addition to the engineering controls to reduce exposure, other methods to reduce exposure to welding fumes include:

- Welders should understand the hazards of the materials they are working with. OSHA's Hazard Communication standard requires employers to provide information and training for workers on hazardous materials in the workplace.
- Welding surfaces should be cleaned of any coating that could potentially create toxic exposure, such as solvent residue and paint.
- Workers should position themselves to avoid breathing welding fumes and gases. For example, workers should stay upwind when welding in open or outdoor environments.

Significant Case Study — Employee Exposure to Welding Fumes in a Metal Fabrication Shop (continued)

Megan Brock, Health Supervisor, GISHD

- General ventilation, the natural or forced movement of fresh air, can reduce fume and gas levels in the work area. Welding outdoors or in open workspaces does not guarantee adequate ventilation.
- In work areas without ventilation and exhaust systems, welders should use natural drafts along with proper positioning to keep fume and gases away from themselves and other workers.
- Local exhaust ventilation systems can be used to remove fume and gases from the welder's breathing zone. Keep fume hoods, fume extractor guns and vacuum nozzles close to the plume source to remove the maximum amount of fume and gases. Portable or flexible exhaust systems can be positioned so that fume and gases are drawn away from the welder. Keep exhaust ports away from other workers.
- Consider substituting a lower fume-generating or less toxic welding type or consumable.
- Do not weld in confined spaces without ventilation.
- Respiratory protection may be required if work practices and ventilation do not reduce exposures to safe levels.

Fabricated Metal Product Manufacturing (NAICS 332) is one of the eight high-hazard industries targeted by MIOSHA for enforcement and outreach activities listed in MIOSHA's Strategic Plan for fiscal years 2019-2023. According to the 2019 U.S. Bureau of Labor Statistics data, the nonfatal occupational injury and illness incidence rate for NAICS 332 in Michigan was 4.3 compared to the average rate of 2.8 for all private industry in Michigan. In the last three fiscal years, GISHD staff inspected 595 establishments in this NAICS (417 safety inspections, 178 health inspections) and identified a total of 1733 safety and health violations. A majority of the safety violations applied to Part 85, Part 1, Part 7, Part 26, Part 24, Part 92, Part 39, Part 33, Part 21, Part 11, Part 26 and Part 2, and most health violations applied to Part 451, Part 315, Part 380, Part 472, Part 590, Part 301, and Part 310.

MIOSHA's CET Division is available to employers so they may take steps voluntarily to correct hazards and comply with current safety and health regulations and practices. Employers are encouraged to contact CET at 517-284-7720 for a free evaluation of their workplace.

Programmed Inspection — High-hazard Industry

Dan Maki, Safety and Health Manager, Construction Safety and Health Division (CSHD)



A masonry contractor performed an exterior restoration project on a multi-story brick-faced college residence hall. The contractor used swing stage scaffolds and hydro-mobile scaffolds with employees staged on the scaffold platforms performing tuck pointing, brick removal and brick replacement. To remove the joint mortar, the contractor used large, hand-held electric grinders with employer-fabricated dust shroud collection systems attached. Employees on the scaffolds and on the ground used electric chipping hammers to remove bricks. The employees also used a dry-cut downdraft saw to cut bricks.

The MIOSHA Standard Part 690. Silica in Construction requires the employer to either follow Table 1 of the standard or perform employee exposure monitoring to ensure employees are not overexposed to respirable crystalline silica.

The term "silica" refers specifically to the compound silicon dioxide (SiO2). Silica is a major component of sand, rock, and mineral ores. Exposure to fine (respirable size) particles of crystalline forms of silica is associated with adverse health effects, such as silicosis, lung cancer, chronic obstructive pulmonary disease (COPD) and activation of latent Tuberculosis (TB) infections.

Programmed Inspection — High-hazard Industry

Dan Maki, Safety and Health Manager, CSHD

The equipment used during the work operations was not compliant with the standard. The employer claimed to have exposure monitoring data for the equipment and work operations being performed, however, no air monitoring data was supplied for review.

A MIOSHA industrial hygienist conducted air monitoring for respirable crystalline silica at the worksite. The employees wore half-face, tight-fitting respirators, but many of the employees had full or partial facial hair. Appropriate respirators were not selected for the work activities performed. During the air monitoring, employees were observed removing their respirators during work activities on the platform. Silica containing dust from the work operations collected on the platforms and on other work areas. Employees periodically used dry broom sweeping to clean.

The permissible exposure limit (PEL) for respirable crystalline silica is 50 µg/m3, calculated as an 8-hour time-weighted average (TWA). The air sampling results showed an employee's exposure was 771 µg/m3 as a TWA, more than 15 times the PEL. This air monitoring was only performed for 230 minutes; therefore, the exposure could have been much higher if the employee had worked a full 8-hour shift.





Rules cited resulting from the inspection include:

Part 690. Silica in Construction

1926.1153(c) Specified Exposure Control Methods

1926.1153(c)(1) For each employee engaged in a task identified on Table 1, the employer shall fully and properly implement the engineering controls, work practices, and respiratory protection specified for the task on Table 1, unless the employer assesses and limits the exposure of the employee to respirable crystalline silica in accordance with paragraph (d) of this section.

1926.1153(d)(1) Permissible Exposure Limit (PEL)

The employer shall ensure that no employee is exposed to an airborne concentration of respirable crystalline silica in excess of 50 µg/m3, calculated as an 8-hour TWA.

1926.1153(e)(2) Respiratory Protection Program

Where respirator use is required by this section, the employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134.

1926.1153(f)(1)

The employer shall not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to respirable crystalline silica unless wet sweeping, HEPA-filtered vacuuming or other methods that minimize the likelihood of exposure are not feasible.

Partnerships, Alliances and Awards

Tanya Baker, Communications Specialist, CET Division

MIOSHA Presents Distinguished Gold Award to KUKA Systems North America LLC in Clinton Township, MI

MIOSHA presented its Consultation Education and Training (CET) Gold Award to the KUKA Systems North America LLC facility in Clinton Township, MI. KUKA Systems is one of the world's leading suppliers of automated production and assembly solutions with seven locations in the Metro Detroit area. Read the <u>full press release</u> to learn more about KUKA's outstanding safety and health record.



Brinkmann Pumps, Inc. Earns Exemplary "MSHARP" Workplace Safety and Health Status



Brinkmann Pumps, Inc. of Wixom, MI is now one of seven Michigan companies recognized by MIOSHA for implementing and maintaining outstanding workplace safety and health standards.

Brinkmann Pumps, Inc., a leading provider of pumps, motors and digital solutions for industrial fluid applications, was awarded its first Michigan Safety and Health Achievement Recognition Program (MSHARP) certification from MIOSHA. Read the <u>full press release</u> to learn more about their exemplary workplace safety and health status.

MIOSHA Partners with LIFTbuild, Barton Malow and Others on "Gateway to Greektown"



MIOSHA, LIFTbuild, Barton Mallow and other partnering employers and trade contractors entered into a level three workforce safety and training agreement, with a focus on zero worker injuries and incidents during the construction of the "Exchange."

"Exchange" is a new construction, 16-story residential tower being built on a brownfield site using LIFTbuild technology.

LIFTbuild utilizes an innovative and unique approach to the assembly process of vertical construction. All deck assembly is performed at ground level, and after each floor plate is

completed, the floor plate, including attached building envelope, is raised to its final position and locked into place. The site is bound by Gratiot Avenue and Brush and Macomb Streets, and serves as a gateway to the Greektown neighborhood. The tower will consist of 153 residential rental units, 12 for-sale condominiums, ground-level space suitable for office or restaurant/retail, and in-demand building amenities, totaling 166,000 square feet.

Standards Update

Shannon Matsumoto, Manager, Standards and FOIA Section, Technical Services Division (TSD)

Standards Completed

Safety & Health Part 11 Recording & Reporting of Occupational Injuries and Illnesses

Effective September 16, 2021

CS Part 10 Cranes and Derricks

Effective September 16, 2021

Standards in Progress

GI Part 74. Firefighting

The current rules are being revised to adopt by reference National Fire Protection Association (NFPA) standard 1403 establishing requirements for live fire training. Due to other legislation the Michigan Occupational Safety and Health Act, Act 154 of 1974 was amended to require the Director of Labor and Economic Opportunity to promulgate rules regarding a firefighter's use of firefighting foam concentrate containing a perfluoroalkyl or polyfluoroalkyl substance (PFAS).

GI & CS Part 505. Coronavirus Disease 2019 (COVID-19) For Healthcare These rules are being adopted, in order to be as effective as the federal Occupational Safety and Health Administration (OSHA) standard 29 CFR Subpart U, "COVID-19 Emergency Temporary Standard, 29 CFR 1910.502, "Healthcare," 29 CFR 1910.504, "Mini Respiratory Protection Program," 29 CFR 1910.505, "Severability," and 29 CFR 1910.509, "Incorporation by Reference."

Watch the MIOSHA standards web page for final versions once they are promulgated and in effect.

Variances

Variances from MIOSHA standards are available to the public in accordance with Administrative Standards for All Industries, Part 12. Variances (R408.22201 to 408.22251). MIOSHA variances are published on the MIOSHA website: mioshavariances.



Mission:

To Protect the Safety and Health of Michigan Workers.

The MIOSHA News is a publication of the MIOSHA program.

Its purpose is to educate Michigan employers and employees about workplace safety and health. We encourage reprinting.

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Michigan Department of Labor and Economic Opportunity (LEO)

Michigan Occupational Safety and Health Administration (MIOSHA)

michigan.gov/miosha



LEO is an equal opportunity employer/program.